federal register

FRIDAY, DECEMBER 7, 1973
WASHINGTON, D.C.

Volume 38 ■ Number 235

PART II

ENVIRONMENTAL PROTECTION AGENCY

■

EFFLUENT LIMITATIONS GUIDELINES AND NEW SOURCE PERFORMANCE STANDARDS

Fertilizer Industry
Leather Tanning and Finishing Industry
Sugar Processing Industry

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 409]

CRYSTALLINE CANE SUGAR AND LIQUID CANE SUGAR REFINING SUBCATEGORIES

Proposed Effluent Limitations Guidelines

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the crystalline cane sugar refining subcategory (Subpart B) and the liquid cane sugar refining subcategory (Subpart C) of the sugar processing category of point sources pursuant to sections 301, 304 (b) and (c), 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b), and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92–500) (the "Act").

(a) *Legal authority*—(1) *Existing point sources.* Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

(2) Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including, treatment techniques, process and procedure innovations, operating methods and other alternatives. The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304(b) of the Act, for the crystalline cane sugar refining subcategory (Subpart B) and the liquid cane sugar refining subcategory (Subpart C), of the sugar processing category.

(3) *New sources.* Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performances for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973, (38 FR 1624) a list of 27 source categories, including the sugar processing category. The regulations proposed herein set forth the standards of performance applicable to new sources for the crystalline cane sugar refining subcategory (Subpart B) and the liquid cane sugar refining subcategory (Subpart C), of the sugar processing category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Sections 409.25 and 409.35 proposed below provide pretreatment standards for new sources within the crystalline cane sugar refining subcategory (Subpart B) and the liquid cane sugar refining subcategory (Subpart C), of the sugar processing category of point sources.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The report or Development Document referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures, or operating methods.

(b) *Summary and basis of proposed effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources*—(1) *General methodology.* The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. General information was obtained on all plants and detailed information was collected for 28 (97 percent) of the 29 domestic cane sugar refineries identified as currently in operation (see Table 1 below). The sources and types of information consisted of:

Applications to the Corps of Engineers for permits to discharge under the Refuse Act Permit Program (RAPP) which were obtained for 24 refineries provided data on the characteristics of intake and effluent waters, water usages, waste water treatment and control practices employed, daily production, and raw materials used.

A questionnaire previously submitted to 17 refineries by the United States Cane Sugar Refineries Association.

On-site inspections of 19 refineries provided information on process diagrams and related water usage, water management practices, and control and treatment practices.

Four refineries were sampled to verify the accumulated data.

Other sources of information included: Personal and telephone interviews and meetings with regional EPA personnel, industry personnel, and consultants; State permit applications; internal data supplied by industry; and a review and evaluation of the available literature.

TABLE 1—SOURCES OF DATA

Refinery	Type [1]	Location	Size-kkg/day (average melt)	Data source [2]
Amstar	C	MD	2,350	1, 2, 4
Do	C	MA	900	1, 2, 3, 5
Do	C	NY	1,900	1, 2, 3, 4, 4
Do	C	LA	2,800	1, 2, 4
Do	C	PA	1,900	1, 2, 4
J. Aron & Co	C	LA	680	1, 4
California & Hawaiian	C	HA	170	1, 4
Do	C	CA	3,175	1, 3, 4
Colonial (Borden)	C	LA	1,350	1, 5
Evercane (Savannah Foods)	C	FL	360	3
Glades County	C	FL	420	3
Godchaux	C	LA	1,540	
Guanica	C	PR	200	1, 3
Igualdad	C	PR	630	1
Imperial	C	TX	1,350	1, 2, 3, 4
Mercedita	C	PR	845	1, 3
National	C	PA	1,900	1, 3, 4
Revere	C	MA	1,090	3
Roig	C	PR	360	1, 3
Savannah Foods	C	GA	1,700	1, 2, 3, 4, 5
South Coast	C	LA	635	1, 4
Southdown	C	LA	635	1, 2, 3, 4
CPC	C–L	NY	1,650	1, 2, 3, 4
SuCrest	C–L	NY	750	1, 2, 3
Florida Sugar (Borden)	L	FL	350	1, 3, 4
Industrial (Borden)	L	MO	275	1, 3, 4
Pepsico	L	NY	725	1, 3, 5
Ponce Candy	L	PR	55	1, 3
SuCrest	L	IL	775	3, 5

[1] C—Crystalline refinery.
C–L—Combination crystalline-liquid refinery.
L—Liquid refinery.

[2] 1 Corps of engineers applications (RAPP).
2 Prior analyses.
3 Interview of plant personnel.
4 Questionnaire.
5 Verification sampling.

The reviews, analyses, and evaluations were coordinated and applied to the following:

An identification of distinguishing features that could potentially provide a basis for subcategorization of the in-

dustry segment. These features included raw material quality, age and size of the refinery, nature of water supply, process employed, and product produced.

A determination of the water usage and waste water characteristics for each subcategory, including the volume of water used, the sources of pollution in the plant, and the type and quantity of constituents in the waste waters.

An identification of those constituents which are characteristic of the industry and determined to be pollutants subject to effluent limitations guidelines and standards of performance.

An identification of the control and treatment technologies presently employed or capable of being employed by the refining industry, including the effluent level attainable and associated treatment efficiency related to each technology.

An evaluation of the cost associated with the application of each control and treatment technology.

The results of this analysis indicated that three refineries are currently achieving no discharge of pollutants to navigable waters by means of land retention, two refineries discharge all process wastes to municipal treatment systems, and ten additional refineries discharge all wastes except barometric condenser cooling water to municipal systems. The majority of the remaining fourteen plants partially treat waste waters.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standard proposed for existing sources under 40 CFR Part 128. The basis for such standards are set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128, except for § 128.133, are equally applicable to sources which would constitute "new sources" under section 306 of the Act if they were to discharge pollutants directly to navigable waters. Section 128.133 provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for quantities of pollutants removed by the publicly owned treatment system. Since the pretreatment standards proposed herein apply to new sources, §§ 409.25 and 409.35 below amend § 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to the crystalline cane sugar refining subcategory (Subpart B) and the liquid cane sugar refining subcategory (Subpart C), of the sugar processing category of point sources.

(i) *Categorization.* For the purpose of establishing effluent limitations guidelines and standards of performance, the cane sugar refining segment of the sugar processing category has been divided into two subcategories:

(1) *Subpart B.* Crystalline Cane Sugar Refining Subcategory: This subcategory includes those refineries which process raw sugar into a crystalline refined sugar product.

(2) *Subpart C.* Liquid Cane Sugar Refining Subcategory: This subcategory includes those refineries which process raw sugar into a liquid refined sugar product.

Factors such as age and size of plant, raw material quality, nature of water supply, and process employed as affecting waste water constituents and waste control and treatment technologies substantiate this determination.

(ii) *Waste characteristics.* The known significant pollutant properties or constituents of waste waters resulting from cane sugar refining include biochemical oxygen demand, suspended solids, and pH. Other parameters considered to be of less significance are chemical oxygen demand, temperature, total dissolved solids, and nutrients.

(iii) Origin of waste water pollutants in the cane sugar refining segment of the sugar processing category.

Major inplant water uses resulting in waste water streams are barometric condenser cooling water, filter cake slurry, char wash water, floor wash water, carbon slurries, truck and car wash, and ion-exchange regeneration water. The filter cake stream may be handled separately in either a dry or slurry form. These waste water streams are referred to as "process waste water". The filter cake slurry, char wash water, floor wash water, carbon slurries, truck and car wash waters, ion-exchange regeneration water, and other miscellaneous waste water streams are called "process water". The "process water", together with the barometric condenser cooling water, constitute the "process waste water".

(iv) *Control and treatment technology.* The control and treatment technologies which are available include in-plant control techniques and end-of-process treatment technologies. Inplant control measures include the minimization of intake water by maximum reuse of waste waters in the process (by such means as sweet water recovery and condensate utilization) and entrainment prevention in barometric condenser cooling water. The principal end-of-process treatment methods include filtration techniques to remove solid material, disposal of excess waste water in holding ponds and waste stabilization lagoons, discharge of process waste waters to municipal treatment systems, and treatment of process waste waters by activated sludge or other equivalent biological treatment technique.

The three major sources of waste resulting from cane sugar refining are filter cake, process waters, and barometric condenser cooling water. Total waste loadings for: Crystalline cane sugar refineries are—1.54 kg BOD5 per kkg (3.08 lb BOD5 per ton) of melt and 1.86 kg TSS per kkg (3.72 lb TSS per ton) of melt; liquid cane sugar refineries are—3.43 kg BOD5 per kkg (6.86 lb BOD5 per ton) of melt and 1.56 kg TSS per kkg (3.12 lb TSS per ton) of melt. Table 2 is a summary of waste loadings resulting from the application of certain treatment alternatives, using no treatment (Alternative A) as a baseline. Filter cake, resulting from the clarification of melt liquor, can be disposed of without discharge to navigable waters by controlled impoundage of the filter slurry or dry handling of the filter cake (Alternative B). Alternative C involves the addition of demisters and external separators to reduce entrainment of sucrose into barometric condenser cooling water. Alternative D involves, in addition to Alternative C, an activated sludge system to treat process waters. Alternative E involves, in addition to Alternative D, the recycle of barometric condenser cooling water through a cooling device with biological treatment of the assumed two percent blowdown and incorporates sand filtration of the effluent from the activated sludge system to further effect solids removal. Alternative F, in addition to Alternative C, allows for no discharge of process water by total impoundage of this waste stream. Alternative G involves, in addition to Alternative F, a recycling of barometric condenser cooling water through a cooling device and total retention of the assumed two percent blowdown.

TABLE 2—SUMMARY OF WASTE LOADS[1] FROM TREATMENT ALTERNATIVES APPLIED TO A CRYSTALLINE CANE SUGAR REFINERY AND A LIQUID CANE SUGAR REFINERY

CRYSTALLINE REFINING

Alternative	BOD5	TSS
A (base line)	1.54	1.86
B	1.36	1.30
C	1.16	1.30
D	.38	.06
E	.04	.03
F	.34	0
G	0	0

LIQUID REFINING

Alternative	BOD5	TSS
A (base line)	3.43	1.56
B	3.25	1.00
C	2.90	1.00
D	.24	.10
E	.06	.03
F	.15	0
G	0	0

[1] Waste loadings expressed as kg/kkg of melt.

(v) *Control and treatment technology within subcategories.* Waste water control and treatment technologies have been studied for each subcategory of the cane sugar refining segment to determine what is (i) the best practicable control technology currently available (BPCTCA), (ii) the best available technology economically achievable (BATEA), and (iii) the best available demonstrated control technology, processes, operating methods or other alternatives (NSPS). Because of the similarity in waste water streams resulting from cane sugar refining, the technologies of treatment and control are the same for both subcategories.

Specific features of the recommended best practicable control technology currently available (BPCTCA) for the two subcategories are:

Containment of filter mud slurry or dry handling of filter cake with land disposal.

Prevention of spillage during raw sugar handling, unloading, and storage.

Entrainment prevention in evaporators and pans through baffling, centrifugal separators, demisters, and utilization of the proper height of the vapor belt.

Maximum reuse of all general waste streams i.e. floor and equipment wastes, filter screen washes (at present some refineries recycle essentially all floor and equipment washes back to the process).

Biological treatment of process waters by activated sludge or equivalent biological treatment system. These features are the equivalent of Alternative D as presented in Table 2 above.

Specific features of the recommended best available treatment economically achievable (BATEA) for the two subcategories are:

Those features considered to be best practicable control technology currently available.

Recycle of barometric condenser cooling water for condenser or other in-plant uses, with recycle of the blowdown stream to biological treatment. Cooling devices (canals, ponds, or towers) are an integral part of a barometric condenser cooling water recycle system.

The addition of sand filtration of the effluent from the activated sludge or equivalent biological treatment system.

These features are the equivalent of Alternative E as presented in Table 2 above.

Specific features of the recommended best available demonstrated control technology, processes, operating methods or other alternatives (NSPS) are:

Those features considered to be best available technology economically achievable.

These features are the equivalent of Alternative E as presented in Table 2 above.

Effluent limitations guidelines and new source performance standards for the two subcategories, crystalline cane sugar refining and liquid cane sugar refining, which reflect (i) the best practicable control technology currently available (BPCTCA), (ii) the best available technology economically achievable (BATEA), and (iii) the best available demonstrated control technology, processes, operating methods or other alternatives (NSPS) are given in Table 3 below:

TABLE 3.—RECOMMENDED EFFLUENT LIMITATIONS AND STANDARDS OF PERFORMANCE

Subcategory	LIMITATIONS—kg/kg of MELT					
	BPCTCA		BATEA		NSPS	
	BOD5	TSS	BOD5	TSS	BOD5	TSS
MONTHLY AVERAGES						
Liquid cane sugar refining	0.24	0.10	0.06	0.03	0.06	0.03
Crystalline cane sugar refining	.38	.06	.04	.03	.04	.03
DAILY AVERAGES						
Liquid cane sugar refining	0.85	0.45	0.21	0.14	0.21	0.14
Crystalline cane sugar refining	1.14	.24	.12	.12	.12	.12

pH for both subcategories shall be within the range of 6.0-9.0.

(vi) Cost estimates for control of waste water pollutants.

The following Tables 4a and 4b set forth the total estimated capital and yearly costs associated with the application of the aforementioned control and treatment alternatives. These costs are based on actual design estimates for crystalline cane sugar refineries with capacities of 545 kkg (600 tons) and 1900 kkg (2100 tons) of melt per day, and also for a liquid cane sugar refinery with a capacity of 508 kkg (560 tons) of melt per day.

TABLE 4A—CUMULATIVE ESTIMATED CAPITAL AND TOTAL YEARLY COSTS ASSOCIATED WITH THE APPLICATION OF VARIOUS TREATMENT ALTERNATIVES TO CRYSTALLINE CANE SUGAR REFINING WASTES

Alt	Reduction		Costs in K $			
	BOD5 percent	TSS percent	545 kkg		1900 kkg	
			Capital	Yearly	Capital	Yearly
A	0	0	0	0	0	0
B	11.7	30.5	61	45	61	71
C	24.7	30.5	113	62	134	75
D	75.3	96.8	308	205	796	296
E	97.5	98.4	714	283	1,510	470
F	78.0	100	1,530	211	5,000	591
G	100	100	2,530	352	7,620	950

TABLE 4B—CUMULATIVE ESTIMATED CAPITAL AND TOTAL YEARLY COSTS ASSOCIATED WITH THE APPLICATION OF VARIOUS TREATMENT ALTERNATIVES TO LIQUID CANE SUGAR REFINING WASTES

Alt	Reduction		Costs in K $	
	BOD5 percent	TSS percent	508 kkg	
			Capital	Yearly
A	0	0	0	0
B	5.3	35.9	61	45
C	15.4	35.9	115	62
D	93.0	93.6	462	230
E	98.3	98.1	626	265
F	93.6	100	1,570	217
G	100	100	2,040	280

The cost figures presented above were derived from actual cost data on existing plants and other cost estimates for equipment, facilities, piping, excavation, land, and other related items associated with pollution control measures. The following features were assumed with regard to operation and pollution reduction practices of the average-sized small (545 kkg) and large (1900 kkg) crystalline cane sugar refineries and average-sized liquid (508 kkg) cane sugar refinery, and applied in arriving at the above cost figures: (i) Discharge of diatomaceous earth filter slurries; (ii) sufficient entrainment controls to result in an entrainment level of 16 mg/1 of BOD5 in barometric condenser cooling water for crystalline refineries and 33 mg/1 of BOD5 in barometric condenser cooling water for liquid refineries; (iii) no recycle of condenser cooling water; and (iv) discharge of process water. Percent reduction of BOD5 and suspended solids (TSS) indicates the cumulative percent of waste load reduction relative to the total potential BOD5 and suspended solids loadings associated with cane sugar refining.

The cost of attaining the recommended treatment levels are:

(1) Crystalline Cane Sugar Refining—The total estimated capital cost to industry to achieve the recommended (i) best practicable control technology currently available (Alternative D) is $4.7 million and (ii) best available technology economically achievable (Alternative E) is $14.2 million.

(2) Liquid Cane Sugar Refining—The total estimated capital cost to industry to achieve the recommended (i) best practicable control technology currently available (Alternative D) is $0.32 million

and (ii) best available technology economically achievable (Alternative E) is $0.8 million.

(vii) Establishing daily average limitations. Based on engineering judgment and an evaluation of what can be achieved by the application of activated sludge for the treatment of cane sugar refining waste waters, daily average limitations have been established. These were determined to be three and three and one-half times the monthly average limitations for BOD5, and four and four and one-half times the monthly average limitations for total suspended solids for the crystalline cane sugar refining subcategory and the liquid cane sugar refining subcategory, respectively.

(viii) *Non-water quality aspects of pollution control.* Principal non-water quality aspects associated with the proposed water-related pollution control technologies recommended herein are (i) the additional energy requirements to effect this control, (ii) solid waste removal, and (iii) air quality relating to the use of cooling towers.

Added energy required for the operation of treatment facilities to achieve the recommended best practicable control technology currently available amounts to:

0.84 percent of the total subcategory energy requirement for crystalline cane sugar refining, and

0.6 percent of the total subcategory energy requirement for liquid cane sugar refining.

Additional energy required to achieve the recommended best available technology economically achievable amounts to:

6.1 percnt of the total subcategory energy requirement for crystalline cane sugar refining, and

1.9 percent of the total subcategory energy requirement for liquid cane sugar refining.

Both the removal of solid material from incoming raw cane sugar (in the form of filter cake) and the biological treatment of refining wastes generate solid wastes which must be disposed of at the plant site or to land-fill areas. It should be noted that these are not hazardous materials and that technology exists for the land disposal of these solid wastes.

Spray drift from cooling towers and spray ponds can present problems, particularly in urban areas. This problem can be reduced by proper control and design, and probably can be eliminated for most wind conditions.

(ix) *Economic impact analysis.* The estimated investment costs for 1977 range between 0.9 and 1.9 percent of current fixed investment depending on the type of plant, size, and location. Annual costs for the 1977 standards vary from 0.08 to 0.5 percent of 1972 sales. For the 1983 standards, the required investment ranges from 1.5 to 1.9 percent of fixed investment, and annual costs are between 0.12 and 0.65 percent of 1972 sales.

These costs do not appear to seriously threaten the economic viability of the industry. Although the proposed limitations will have a negligible effect on prices, the 1977 standards could threaten from three to six plants in the industry. These plants represent between six and twelve percent of current industry production. However, looking at the entire sugar processing industry, it is felt that the long-term supply of sugar would not be greatly affected. These potential plant closures should not result in any significant employment or community effects. For 1983 it has been estimated that no additional closures would occur. Furthermore, neither the 1977 nor the 1983 standards are expected to have any noticeable effects on industry growth or the balance of trade.

A report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the CANE SUGAR REFINING Segment of the Sugar Processing Point Source Category" which further describes the analysis undertaken in support of the regulations being proposed herein is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the proposed regulations is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulations, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) *Summary of public participation.* Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations guidelines and standards proposed for the cane sugar refining segment of the sugar processing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under Section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) U.S. Department of Health, Education, and Welfare; (4) U.S. Department of Commerce; (5) U.S. Department of Agriculture; (6) U.S. Department of the Interior; (7) U.S. Department of the Treasury; (8) Water Resources Council; (9) United States Cane Sugar Refineries Association; (10) USCSRA Task Force for EPA Effluent Guidelines; (11) Hawaiian Sugar Planters Association; (12) American-Florida Sugar Cane League; (13) Puerto Rico Land Administration; (14) Amstar Corporation; (15) Savannah Foods & Industries, Inc.; (16) California & Hawaiian Sugar Co.; (17) North American Sugar Industries Inc.; (18) Imperial Sugar Co.; (19) SuCrest Corporation; (20) Southdown, Inc.; (21) Ohio River Valley Sanitation Commission; (22) New England Interstate Water Pollution Control Commission; (23) Delaware River Basin Commission; (24) Hudson River Sloop Restoration, Inc.; (25) The Conservation Foundation; (26) Environmental Defense Fund, Inc.; (27) Natural Resources Defense Council; (28) Water Pollution Control Federation; (29) National Wildlife Federation; (30) The American Society of Civil Engineers; (31) The American Society of Mechanical Engineers.

The following organizations responded with comments: California Water Resources Control Board; Texas Water Quality Board; State of Pennsylvania, Division of Industrial Wastes and Erosion Control; State of Florida, Department of Pollution Control; Delaware River Basin Commission; U.S. Department of Agriculture; U.S. Department of Health, Education, and Welfare; U.S. Department of the Interior; and the United States Cane Sugar Refineries Association.

The comments were highly variable; the primary issues raised in the development of the proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) A common criticism was that while the report includes a good summary of existing conditions and reaches logical and practical conclusions, the zero discharge of polluted waters to navigable waters is unrealistic for the refining industry as a whole. In particular, those refineries not having available land to totally retain waste waters would be technologically unable to attain the zero discharge limitation. The practicable and available technologies and treatment alternatives were reconsidered and effluent limitations developed which reflect levels of technology which can be achieved by the entire industry. These are based on biological treatment of the waste water streams, the bases being presented in the Development Document. For the purposes of establishing uniform national standards, effluent limitations guidelines have been established based on this information.

(2) The comment was made that further subcategorization of the segment into crystalline versus liquid final product was necessary. This subcategorization was considered and determined to be desirable. The Development Document now reflects the separate subcategorization of these two processing methods. Separate effluent limitations guidelines have been established for each subcategory: Crystalline cane sugar refining and liquid cane sugar refining.

(3) A number of commenters expressed the opinion that because of the variability of processing, waste treatment efficiencies, and sampling results, a necessity exists for the effluent limitations

guidelines to reflect this variability. This has been accomplished by the inclusion in the guidelines of a monthly average and a maximum daily average allowable discharge.

(4) The comment was made that the quality of the raw sugar (raw material) varies with the source, season of the year, cane variety, and agronomic practices. The opinion was expressed that these variations in quality affect the nature of the waste discharged. The available data on raw waste loadings shows no indication that any significant difference exists as a result of any difference in raw material quality.

(5) The statement was made that biological treatment of sugar wastes alone is not a demonstrated treatment technology. The nature of refinery waste is that it is suitable to biological treatment. Sucrose is well known to be highly biodegradable, and substantial BOD5 reductions have been observed in combined factory-refinery impoundage lagoons. The applicability of biological treatment to refinery waste waters has also been well demonstrated by the twelve refineries that discharge process wastes to municipal biological treatment systems, while no refineries currently employ biological treatment in the form of activated sludge or aerated lagoons, these systems are considered to be currently available technology. With proper engineering design and with nutrient addition to the nutrient deficient wastes, these systems can achieve 90 to 95 percent and higher treatment efficiencies for highly organic wastes such as process waste water from cane sugar refineries.

(6) The comment was made that cost information presented in the Development Document was low in terms of dollar values. This information was reviewed and revised. In addition, a model was developed for an average-sized small crystalline refinery to supplement the existing cost information for an average-sized liquid refinery and an average-sized large crystalline refinery. The cost data were derived from actual cost information for existing plants and other cost estimates for equipment, facilities, piping, and other related items associated with pollution control measures.

Interested persons may participate in this rule-making by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which is available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data is essential to the development of the regulations. In the event comments address the approach taken by the agency in establishing an effluent limitation guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of Sections 301, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street, SW., Washington D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before January 7, 1974, will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated November 23, 1973.

JOHN QUARLES,
Acting Administrator.

PART 409—EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE SUGAR PROCESSING POINT SOURCE CATEGORY

Subpart B—Crystalline Cane Sugar Refining Subcategory

Sec.

409.20 Applicability; description of crystalline cane sugar refining subcategory.
409.21 Specialized definitions.
409.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
409.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
409.24 Standards of performance for new sources.
409.25 Pretreatment standards for new sources.

Subpart C—Liquid Cane Sugar Refining Subcategory

409.30 Applicability; description of liquid cane sugar refining subcategory.
409.31 Specialized definitions.
409.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
409.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
409.34 Standards of performance for new sources.
409.35 Pretreatment standards for new sources.

AUTHORITY: Secs. 301, 304(b) and (c), 306 (b) and 307(c), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92-500) (the "Act").

Subpart B—Crystalline Cane Sugar Refining Subcategory

§ 409.20 Applicability; description of crystalline cane sugar refining subcategory.

The provisions of this subpart are applicable to discharges resulting from the processing of raw sugar into a crystalline refined sugar product.

§ 409.21 Specialized definitions.

For the purpose of this subpart:

(a) The following abbreviations shall have the following meanings: (1) "TSS" shall mean total suspended nonfilterable solids; (2) "kg" shall mean kilogram(s); (3) "kkg" shall mean 1000 kg; (4) "kg/kkg" shall mean kilograms per 1000 kilograms; (5) "BOD5" shall mean five days biochemical oxygen demand; and (6) "lb" shall mean pound(s).

§ 409.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum daily average 1.14 kg/kkg of melt (2.28 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.38 kg/kkg of melt (0.76 lb/ton of melt).
TSS	Maximum daily average 0.24 kg/kkg of melt (0.48 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.06 kg/kkg of melt (0.12 lb/ton of melt).
pH	Within the range of 6.0 to 9.0.

§ 409.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum daily average 0.12 kg/kkg of melt (0.24 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.04 kg/kgg of melt (0.08 lb/ton of melt).

Effluent characteristic	*Effluent limitation*
TSS	Maximum daily average 0.12 kg/kkg of melt (0.24 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.03 kg/kkg of melt (0.06 lb/ton of melt).
pH	Within the range of 6.0 to 9.0.

§ 409.24 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum daily average 0.12 kg/kgg of melt (0.24 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.04 kg/kgg of melt (0.08 lb/ton of melt).
TSS	Maximum daily average 0.12 kg/kkg of melt (0.24 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.03 kg/kkg of melt (0.06 lb/ton of melt).
pH	Within the range of 6.0 to 9.0.

§ 409.25 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the crystalline cane sugar refining subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters); shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 409.24: *Provided,* That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart C—Liquid Cane Sugar Refining Subcategory

§ 409.30 Applicability; description of liquid cane sugar refining subcategory.

The provisions of this subpart are applicable to discharges resulting from the processing of raw sugar into a liquid refined sugar product.

§ 409.31 Specialized definitions.

For the purpose of this subpart:

(a) The following abbreviations shall have the following meanings: (1) "TSS" shall mean total suspended nonfilterable solids; (2) "kg" shall mean kilogram(s); (3) "kkg" shall mean 1000 kg; (4) "kg/kkg" shall mean kilograms per 1000 kilograms; (5) "BOD5" shall mean five day biochemical oxygen demand; and (6) "lb" shall mean pound(s).

§ 409.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum daily average 0.85 kg/kkg of melt (1.70 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.24 kg/kkg of melt (0.48 lb/ton of melt).
TSS	Maximum daily average 0.45 kg/kkg of melt (0.90 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.10 kg/kkg of melt (0.20 lb/ton of melt).
pH	Within the range of 6.0 to 9.0.

§ 409.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum daily average 0.21 kg/kkg of melt (0.42 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.06 kg/kkg of melt (0.12 lb/ton of melt).
TSS	Maximum daily average 0.14 kg/kkg of melt (0.28 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.03 kg/kkg of melt (0.06 lb/ton of melt).
pH	Within the range of 6.0 to 9.0.

§ 409.34 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum daily average 0.21 kg/kkg of melt (0.42 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.06 kg/kkg of melt (0.12 lb/ton of melt).
TSS	Maximum daily average 0.14 kg/kkg of melt (0.28 lb/ton of melt). Maximum average of daily averages for any period of thirty consecutive days 0.03 kg/kkg of melt (0.06 lb/ton of melt).
pH	Within the range of 6.0 to 9.0.

§ 409.35 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the liquid cane sugar refining subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters); shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 409.34; *provided,* That if, the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall

be correspondingly reduced for that pollutant.

[FR Doc.73-25339 Filed 12-6-73;8:45 am]

[40 CFR Part 418]

FERTILIZER MANUFACTURING POINT SOURCE CATEGORY

Proposed Effluent Limitations Guidelines

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the phosphate subcategory (Subpart A), the ammonia subcategory (Subpart B), the urea subcategory (Subpart C), the ammonium nitrate subcategory (Subpart D) and the nitric acid subcategory (Subpart E) of the fertilizer manufacturing category of point sources pursuant to sections 301, 304 (b) and (c), 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq; Pub. L. 92-500) (the "Act").

(a) *Legal authority.*—(1) *Existing point sources.* Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives.

The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304(b) of the Act, for the phosphate subcategory (Subpart A), the ammonia subcategory (Subpart B), the urea subcategory (Subpart C), the ammonium nitrate subcategory (Subpart D), and the nitric acid subcategory (Subpart E) of the fertilizer manufacturing category.

(2) *New sources.* Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973, (38 FR 1624) a list of 27 source categories including the fertilizer manufacturing category. The regulations proposed herein set forth the standards of performance applicable to new sources for the phosphate subcategory (Subpart A), the ammonia subcategory (Subpart B), the urea subcategory (Subpart C), the ammonium nitrate subcategory (Subpart D), and the nitric acid subcategory (Subpart E) of the fertilizer manufacturing category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Sections 418.15, 418.25, 418.35, 418.45 and 418.55, proposed below, provide pretreatment standards for new sources within the phosphate subcategory (Subpart A), the ammonia subcategory (Subpart B), the urea subcategory (Subpart C), the ammonium nitrate subcategory (Subpart D) and the nitric acid subcategory (Subpart E) of the fertilizer manufacturing category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The report or Development Document referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(b) Summary and basis of proposed effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources.

(1) *General methodology.* The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of (1) the source, flow and volume of water used in the process employed and the sources of waste and waste waters in the operation; and (2) the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations guidelines and standards of performance were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification of, in terms of the amounts of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available," "the best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under 40 CFR Part 128. The basis for such standards is set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for § 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for

amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§ 418.15, 418.25, 418.35, 418.45 and 418.55 below amend § 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to the phosphate subcategory (Subpart A), the ammonia subcategory (Subpart B), the urea subcategory (Subpart C), the ammonium nitrate subcategory (Subpart D) and the nitric acid subcategory (Subpart E) of the fertilizer manufacturing category.

(i) *Categorization.* For the purpose of studying waste treatment and effluent limitations, the basic fertilizer chemicals segment of the fertilizer manufacturing category was divided into five discrete subcategories which coincide with the waste water treatment technologies used for each subcategory as outlined in the Development Document for the fertilizer manufacturing category.

(*a*) *Subpart A—Phosphate Subcategory.* This part of the industry includes the manufacture of sulfuric acid by sulfur burning, wet process phosphoric acid, normal superphosphate, triple superphosphate and ammonium phosphate. The manufacture of phosphoric acid includes phosphate rock grinding, acid attack of phosphate rock, phosphoric acid concentration and phosphoric acid clarification. All of these operations usually occur in a single complex separate from nitrogen fertilizer products. Treatment of the joint waste streams by neutralization and settling in general can be adequately accomplished without separation of individual process waste streams.

(*b*) *Subpart B—Ammonia Subcategory.* Ammonia is made by high temperature and high pressure gaseous reactions. Adequate treatment of the primary waste constituent ammonia can only be accomplished by treatment separate from other operations in a nitrogen fertilizer complex (i.e. ammonia stripping). Hence production of ammonia should stand by itself as a subcategory.

(*c*) *Subpart C—Urea Subcategory.* The synthesis of urea is also characterized by high pressure gaseous reactions. The waste water contains large quantities of ammonia and urea. Treatment of these wastes involves urea hydrolysis, which necessitates separation of urea waste streams from the waste streams of other products at a nitrogen fertilizer complex. Operations utilizing prill towers have an increased raw waste load of ammonia and urea.

(*d*) *Subpart D—Ammonium Nitrate Subcategory.* The production of ammonium nitrate is accomplished by mixing liquid ammonia and nitric acid in a low pressure vessel. Flash vaporization of water from the dilute nitric acid is the source of the process waste water. The treatment of ammonia and nitrates poses special waste water treatment problems which require consideration as a separate subcategory.

(*e*) *Subpart E—Nitric Acid Subcategory.* Nitric acid is produced by the oxidation of ammonia at elevated temperatures. There is no process waste water. Hence there is a need for nitric acid manufacturing to be considered separately from other nitrogen fertilizer operations.

(ii) *Waste characteristics.* The pollutants or pollutant characteristics contained in raw waste waters resulting from the phosphate subcategory (Subpart A) of the fertilizer manufacturing category include low pH, phosphorus, fluorides, cadmium, arsenic, vanadium and uranium. Nitrogen in the form of ammonium will result from the synthesis of ammonium phosphate. Low and high pH and nitrogen occur in the raw wastes from the ammonia, urea, ammonium nitrate and nitric acid subcategories. Nitrogen will occur in different forms in each of these four subcategories (Subparts B, C, D and E). In the ammonia subcategory, nitrogen will be present as ammonia, in the urea subcategory as ammonia and organic nitrogen, in the ammonium nitrate subcategory as ammonia and nitrate, and in the nitric acid subcategory as nitrate. Oil and grease will be present in the raw wastes of the ammonia subcategory.

Closed loop cooling tower blowdown, manufacturing waste water, process condensate, spills and leaks, and run-off waters constitute the principal waste waters in fertilizer manufacturing.

Of the metals found in the raw waste waters of the phosphate subcategory, only cadmium is found in an appreciable quantity. Cadmium and all cadmium compounds were listed as a toxic pollutant in the FEDERAL REGISTER of July 6, 1973, 38 FR 18044. The effluent limitation for cadmium will be the same as that effluent standard established for this constitutent as a toxic pollutant. Effluent standards were not set for the remaining metals, arsenic, vanadium and uranium, because of the lack of data. What data that does exist shows that only trace amounts of these constituents are present. In addition, the proposed treatment technologies will adequately remove these constituents along with those constituents for which effluent standards are proposed.

Bacteria and rust inhibitors, such as chromium and zinc, are sometimes added to recirculated noncontact cooling waters. Effluent limitations guidelines for these components and the thermal components of noncontact cooling water will be proposed at a later date. However, ammonia emissions at nitrogen fertilizer complexes can be absorbed by noncontact cooling water at cooling towers, and this may constitute a substantial portion of the total raw waste load. Therefore, the proposed limitations for ammonia apply to both process waste water and noncontact cooling water that has accumulated this pollutant from the same manufacturing process by absorption of ammonia from the air.

Raw waste load data have been collected on these streams for each subcategory of the industry, and information has been assembled on the treatment procedures required for each waste water stream.

(iii) Origin of waste water pollutants in the fertilizer manufacturing category.

(*a*) *Phosphate Subcategory.* Sulfuric acid is made by oxidizing molten sulfur at high temperatures. The process requires a large quantity of cooling water which usually flows through cooling towers and is recycled. Leaks in the heat exchange equipment will introduce sulfuric acid to the cooling water.

Phosphoric acid used for fertilizers is produced by applying a strong acid, usually sulfuric acid, to phosphate ore. This ore is not pure and appreciable amounts of fluorides and possibly trace amounts of cadmium, arsenic, vanadium and uranium will be leached by the acid. Fluorine is volatilized in the process and is collected in water scrubbers. The large amount of by-product gypsum that is formed by the reaction is sluiced to large gypsum ponds by previously polluted water. The waste water from the scrubbers is typically sent to this same pond. In concentrating phosphoric acid, impurities (principally fluorine) will be volatilized and be collected in the barometric condenser water.

Escaping gases from the production of superphosphates and ammonium phosphates are treated by wet scrubbers. Phosphorus and fluorides will also be present in these waste waters. Ammonia is found in ammonium phosphate scrubber water.

(*b*) *Ammonia subcategory.* The principal source of process waste water is condensation of excess steam used in the primary reformer. Ammonia in this condensate may originate from recycle of purge gas, from feed air containing ammonia and from ammonia inadvertently formed in the shift converter. Since cryogenic equipment is used in the process, condensate about the pipes and equipment may adsorb ammonia from leaks in seals. Another source of ammonia is absorption in cooling towers of ammonia emissions from the ammonia plant. Oil and grease occur as the result of drippings from pump and high pressure compressors.

(*c*) *Urea subcategory.* Following the urea forming reactions, the pressure is reduced to allow ammonia, carbon dioxide and ammonium carbamate to flash from the urea product. Water scrubbing of these flashed gases along with the condensation of water vapor from the urea concentration step results in a waste stream containing urea, ammonium carbamate, ammonia and carbon dioxide. Fine dust from prill towers or urea pan granulators may also enter water collection systems via rain water or wash water.

(*d*) *Ammonium nitrate subcategory.* The nitric acid-ammonia reaction is highly exothermic, and a large amount of water containing ammonia, nitric acid, nitrate and some nitrogen dioxide is evaporated. Air scrubbing of these contaminants will result in their presence in the waste waters. As is the case for urea, prilling of the product will result in a fine dust which can enter water col-

lection systems via rain water or wash water.

(e) *Nitric acid subcategory.* Leaks and spills are the only sources of pollution from the manufacturing process.

(iv) *Treatment and control technology.* In-plant procedures to control pollution include good housekeeping, control of spills, immediate correction of leaks, reduction and control of start-up and shutdown operations, reuse of waste water, salvage of by-products for sale, and control of runoff and seepage from lagoons.

"End-of-pipe" waste water treatment processes include sedimentation, flocculation, precipitation, filtration, neutralization, holding basins, lagoons, cooling towers, condensers, disposal of solids to landfill areas, continuous monitoring of cooling water, evaporation, steam or air stripping of ammonia, urea hydrolysis, ion exchange and recycle.

Air pollution control processes include precipitation, filtration, demisting, stack washing, use of separator towers, cyclone separation, and diversion of components originating in air pollution control processes to waste water treatment systems, to raw materials, and to products. Wet scrubbing of stacks leads to heavy contamination of waste water.

Solid waste control must be considered. The processes in the phosphate subcategory of the fertilizer industry generate a considerable amount of solid wastes, notably gypsum. Best practicable control technology and best available control technology, as they are known today, require solid waste disposal of these quantities. In most cases these are nonhazardous substances, requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to ensure long term protection of the environment from these hazardous or harmful constituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g. impervious liners) should be taken to ensure long term protection to the environment from hazardous materials. Where appropriate the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

(v) *Treatment and control technology within subcategories.* Waste water treatment and control technologies have been studied for each subcategory of the industry to determine what is (a) the best practicable control technology currently available, (b) the best available technology economically achievable; and (c) the best available demonstrated control technology, processes, operating methods or other alternatives.

(a) *Treatment in the phosphate subcategory.* The application of the best practicable control technology currently available will result in no discharge of the waste components of process waste water from plants of the phosphate subcategory.

The need to treat phosphate fertilizer process contaminated water is almost entirely dependent upon the local rainfall to evaporation ratio. This means that barring poor water management and concentrated periods of heavy rainfall, the fresh water use and the pond water evaporation are essentially in balance. Therefore, any means of making an in-process change to utilize the contaminated water instead of fresh water will create a negative water balance. In turn, this will eliminate the need for treatment of contaminated water and effect a "no discharge" condition, except during exceptional periods of heavy rainfall.

Contaminated gypsum pond water can be treated effectively for control of pH, phosphorus and fluorides. Treatment consists of a "double-liming" or two-stage lime neutralization. After settlement the clear neutralized water will contain 15–30 mg/l of fluoride and 10–40 mg/l of phosphorus. Additional liming to a pH of 8.5 or greater will maximize fluoride and phosphorus removal.

The phosphoric acid process may be modified to permit use of the contaminated gypsum pond water for dilution of sulfuric acid in place of fresh water. This will create a negative water balance in the gypsum pond. These modifications can be added to existing plants, or included in the design of new facilities.

A monitoring and emergency containment system can be installed at sulfuric acid installations in the event that noncontact cooling water becomes polluted as the result of leaks.

(b) *Treatment in the ammonia subcategory.* Best practicable control technology currently available can be achieved by ammonia stripping by air and/or steam. Ammonia levels of 0.125 kg/kkg (0.125 lb/1000 lb) of product have been achieved. Alternate treatment technologies include biological nitrification and denitrification or selective ion exchange for ammonia subsequent to ammonia stripping. Advanced ammonia stripping units are currently under development that are expected to attain the proposed limitations for best available technology economically achievable.

Oil and grease can be controlled at the source by drip pans under pumps and compressors. Otherwise oil and grease removal from waste streams can be accomplished by gravity type API separators.

(c) *Treatment in the urea subcategory.* Best practicable control technology currently available can be achieved by hydrolysis of urea to ammonia and carbon dioxide. These gases can then either be returned to the urea manufacturing process or stripped to the atmosphere. The resultant effluent can achieve ammonia and organic nitrogen levels of 0.075 kg/kkg (0.075 lb/1000 lb) of product and 0.0375 kg/kkg (0.0375 lb/1000 lb) of product respectively. Alternate urea hydrolysis units are currently under development that are expected to further reduce the ammonia and organic nitrogen levels to the proposed limitations for best available technology economically achievable.

(d) *Treatment in the ammonium nitrate subcategory.* Best practicable control technology currently available can be achieved by ion exchange removal of ammonium and nitrate ions. Ammonia and nitrate levels of 0.1 kg/kkg (0.1 lb/1000 lb) of product and 0.125 kg/kkg (0.125 lb/1000 lb) of product respectively can be achieved. The treated water may be reused within the plant as make-up boiler feed water, or as cooling tower make-up water, or may be recycled back to the raw water treatment unit. The regeneration of the ion exchange resins creates a concentrated ammonium nitrate waste which may be further concentrated and sold.

Alternate treatment technologies capable of attaining the proposed limitations for best available control technology economically achievable are currently being developed. These include biological nitrification and denitrification, advanced ion exchange and recycle as nitric acid plant feed.

(e) *Treatment in the nitric acid subcategory.* There is no discharge of process waste water from the nitric acid manufacturing process. Best practicable control technology currently available therefore involves detection and containment of leaks and prevention of spills.

(vi) Cost estimates for control of waste water pollutants in the phosphate manufacturing category.

Cost estimates follow for processes that can achieve the various levels of treatment required for the five subcategories.

(a) *The phosphate subcategory.* The economic analysis for the phosphate subcategory centered about two end products, ammonium phosphate and triple superphosphate. Best practicable control technology currently available can be achieved at costs of $3.40 and $1.20 per ton of product, respectively for these two products. Best available technology economically achievable can be achieved at costs of $0.14 and $0.10 per ton of product, respectively for these two products.

(b) *The ammonia subcategory.* Best practicable control technology currently available can be achieved at a cost of $1.11 per ton of product. Best available technology economically achievable can be achieved at a cost of $0.33 per ton of product.

(c) *The urea subcategory.* Best practicable control technology currently available can be achieved at a cost of $1.70 per ton of product. Best available technology economically achievable can be achieved at a cost of $0.60 per ton of product.

(d) *The ammonium nitrate subcategory.* Best practicable control technology currently available can be achieved at a cost of $3.70 per ton of product. Best available technology economically achievable can be achieved at a cost of $2.20 per ton of product.

(e) *The nitric acid subcategory.* Nitric acid is an intermediate product used for the manufacture of phosphoric acid and

ammonium nitrate. Increased costs due to the costs of installing water pollution control equipment are computed into the end-products, rather than presenting them separately.

(vii) *Establishing daily maximum limitations.* Similar treatment by other industrial categories of the waste water parameters for the fertilizer manufacturing category has demonstrated that a maximum daily deviation by a factor of 1.5 times the long term average value is a reasonable limitation to ensure control of the treatment systems. Since in this case insufficient data exists to form an exact statistical basis to establish maximum daily effluent limitations, the factor was relaxed to the extent that the maximum daily value may not exceed twice the long term average value.

The parameter of pH is readily controllable to within the range of 6.0 and 9.0 because of the development of continuous monitoring and automatic control devices. Therefore, pH must be maintained within the range of 6.0 and 9.0 at all times.

(viii) *Nonwater quality aspects.* Air or steam stripping of ammonia will result in ammonia emissions to the atmosphere. Experience with these treatment systerms in other industries and at publicly owned treatment works has shown no detrimental environmental effects. No deleterious noise or radiation problems are associated with the proposed waste water treatment methods for the fertilizer manufacturing category. Solid wastes disposed in the manner previously discussed will not have an environmental impact.

(ix) *Economic impact analysis.* The economic analysis has focused on both internal and external costs associated with the proposed levels of water pollution abatement.

The total investment and annual costs required for all subcategories of this segment of the industry to achieve the proposed effluent limitations guidelines representing the best practicable control technology currently available are estimated at $100 million and $67 million, respectively. Additional total investment and annual costs of $51 million and $25 million, respectively, are estimated to achieve the proposed effluent limitations guidelines representing the best available technology economically achievable.

The total cost of water pollution abatement, both operating and raw material costs, for each product has been related to the average product selling price to determine the magnitude of either price increases, if these costs can be passed on, or decreases in pre-tax profitability. These percentages range from 2.2 percent for triple superphosphate to 8.4 percent for ammonium nitrate after the application of best practicable control technology currently available. The application of best available technology economically achievable will result in additional increases that range from 0.2 percent for triple superphosphate and diammonium phosphate to 5.0 percent for ammonium nitrate.

External cost deals basically with the assessment of economic impact of the internal costs discussed above in terms of price increases, production curtailments or plant closures, resultant employment, community and regional impacts, international trade, and future industry growth. It should be noted that a precise study of economic impact is difficult due to numerous other economic forces at work within an industry, and because of the great variability experienced from plant-to-plant in such factors as pollution control costs, profitability, and return on investment. In an economic study such as this, it is not possible to deal with these factors on an individual plant basis.

The manufacture of only two chemicals, ammonium phosphate and ammonium nitrate, are expected to receive any significant economic impact by application of the proposed guidelines for 1977, 1983, or new sources. For ammonium phosphate, constraints on pricing due to a projected over supply situation in the mid-decade, may threaten between 3 to 16 of the smallest plants which represent 7 to 39 percent of the ammonium phosphate production capacity. This over supply situation is due to the planned building of several large plants to take advantage of the economies of scale. If this over expansion were not to occur, either very few or no plant closings would be predicted. For ammonium nitrate, higher pollution costs coupled with constraints on price increases may threaten between 16 to 29 of the smallest plants which represent 16 to 33 percent of the ammonium nitrate production capacity. Of these plants, all but 10 are part of a complex which produces other fertilizer finished products. At the worst, the impact of any shutdown of a single process within a complex will be somewhat offset by the increased production of other fertilizer products.

The affected fertilizer plants are located throughout the United States, and no single area is expected to be greatly impacted. It is expected that there will be no long term effects to the U.S. balance of trade.

A report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the BASIC FERTILIZER CHEMICALS Segment of the Fertilizer Manufacturing Point Source Category" details the analysis undertaken in support of the regulations being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for the EPA of the possible economic effects of the proposed regulations is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulations, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) *Summary of public participation.* Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of the effluent limitations guidelines and standards proposed for the fertilizer manufacturing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies except those who specifically requested to be omitted (North Dakota, Montana, Utah, Wyoming, Michigan and West Virginia); (3) the Fertilizer Institute; (4) Manufacturing Chemists Association; (5) Puerto Rico Land Association; (6) The American Society of Mechanic Engineers; (7) Hudson River Sloop Restoration, Inc.; (8) The Conservation Foundation; (9) Environmental Defense Fund, Inc.; (10) Natural Resources Defense Council; (11) The American Society of Civil Defense Council; (12) The American Society of Civil Engineers; (13) Water Pollution Control Federation; (14) National Wildlife Federation; (15) the Isaac Walton League of America; (16) Western Montana Scientists Committee for Public Information; (17) U.S. Department of Commerce; (18) U.S. Department of the Interior; (19) U.S. Department of Agriculture; and (20) U.S. Water Resources Council.

The following organizations responded with comments: The Fertilizer Institute; E. I. du Pont de Nemours and Company; Allied Chemical Corporation; Tennessee Valley Authority; Natural Resources Defense Council; U.S. Water Resources Council; Western Montana Scientists Committee for Public Information; Effluent Standards and Water Quality Information Advisory Committee; U.S. Department of Commerce; U.S. Department of the Interior; U.S. Department of Agriculture; Iowa State University; State of Florida, Department of Pollution Control; New York State Department of Environmental Conservation; State of California, Water Resources Control Board; Illinois Environmental Protection Agency; State of North Carolina, Department of Natural and Economic Resources; State of Alaska, Department of Environmental Conservation; Arizona State Department of Health; State of Nebraska, Department of Environmental Control; and State of Pennsylvania.

The primary issues raised in the development of the proposed limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) The objection was raised that water quality factors were not taken into account in establishing effluent guidelines. The Act differentiates between

effluent limitations that are based upon existing and achievable technology and effluent limitations to be applied if the technology based limitations are not sufficient to meet the water quality standards. The intent of the Act clearly is to apply technology based standards broadly and then to require additional pollutant reductions whenever needed to meet water quality standards. These regulations propose technology based standards in compliance with sections 301, 304 (b) and (c), 306(b) and 307(c) of the Act.

(2) A pH limitation of ±1 unit of the receiving water was originally proposed. This standard was objected to as being based on water quality criterion alone. The proposed pH limitations were changed to read, pH shall be within the range of 6.0 to 9.0. This is consistent with the other proposed effluent limitations.

(3) The remark was made that the standards of performance for new sources should be as stringent as best available technology economically achievable. The latter effluent limitations can be based upon technology that currently is being developed. However, standards of performance are to be applied to "any source, the construction of which is commenced after the publication of proposed regulations * * * if such standard is thereafter promulgated." Since technology, that has yet to be perfected, cannot be applied to such new sources, less stringent limitations must be applied that are based upon existing, proven technology.

(4) A 48 and 96 hour, two-fold deviation from the limitation average was deemed too great. These variability factors were changed to allow the maximum for any one day to be twice the maximum average of daily values for specified periods of consecutive days.

(5) It was suggested that cadmium, vanadium, arsenic, selenium and radioactive materials be considered. These contaminants were reviewed and only cadmium is present in measurable quantities in the raw waste waters of the phosphate subcategory. However, since cadmium is listed in the FEDERAL REGISTER of July 6, 1973, 38 FR 18044, the effluent standard to be established for cadmium as a toxic pollutant will also apply to this category.

(6) The chromium and zinc limitations were objected to as being too lenient. These contaminants will be present only if they are added to recirculated cooling water as bacteria and rust inhibitors. The presence of these constituents in cooling water will be studied at a later time, and limitations governing such have accordingly been deleted for this category.

(7) Objection was raised to a single standard for urea plants. Urea plants that prill their product will have an increased raw waste load due to air emissions consisting of dust particles that can eventually find their way to waste water collection systems via rainfall and other methods. An exception was therefore allowed for urea plants that prill.

(8) It was argued that installation and operating costs are too low. The contractor is especially well qualified in estimating equipment costs. However, there will be special cases where installation costs will be higher, due to peculiar local problems. These costs can neither be anticipated nor estimated except on a single plant study.

(9) Commentators have suggested that the proposed effluent guidelines may result in significant impacts, particularly in the cases of ammonium nitrate and diammonium phosphate. In addition, in the light of current and prospective shortages of fertilizer additional information is requested, particularly on capital expenditures and on the amount of pollution control in place, to enable a more incisive analysis of prospective production curtailment and plant shutdowns.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which is available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data is essential to the development of the regulations. In the event comments address the approach taken by the agency in establishing an effluent limitation guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street SW., Washington, D.C. A copy of preliminary draft contractor reports, the Development Document and the economic study referred to above and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before January 9, 1974, will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated: November 23, 1973.

JOHN QUARLES,
Acting Administrator.

PART 418—EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE FERTILIZER MANUFACTURING POINT SOURCE CATEGORY

Subpart A—Phosphate Subcategory

Sec.

418.10 Applicability; description of phosphate subcategory.
418.11 Specialized definitions.
418.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
418.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
418.14 Standards of performance for new sources.
418.15 Pretreatment standards for new sources.

Subpart B—Ammonia Subcategory

418.20 Applicability; description of ammonia subcategory.
418.21 Specialized definitions.
418.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
418.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
418.24 Standards of performance for new sources.
418.25 Pretreatment standards for new sources.

Subpart C—Urea Subcategory

418.30 Applicability; description of urea subcategory.
418.31 Specialized definitions.
418.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
418.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by application of the best available technology economically achievable.
418.34 Standards of performance for new sources.
418.35 Pretreatment standards for new sources.

Subpart D—Ammonium Nitrate Subcategory

418.40 Applicability; description of ammonium nitrate subcategory.
418.41 Specialized definitions.
418.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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418.44 Standards of performance for new sources.
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Subpart E—Nitric Acid Subcategory

Sec.
418.50 Applicability; description of nitric acid subcategory.
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418.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
418.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
418.54 Standards of performance for new sources.
418.55 Pretreatment standards for new sources.

AUTHORITY: Secs. 301, 304 (b) and (c), and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq. Pub. L. 92-500 (the "Act").

Subpart A—Phosphate Subcategory

§ 418.10 Applicability; description of phosphate subcategory.

The provisions of this subpart are applicable to the discharges resulting from the manufacture of sulfuric acid by sulfur burning, wet process phosphoric acid, normal superphosphate, triple superphosphate and ammonium phosphate.

§ 418.11 Specialized definitions.

For the purposes of this subpart:

(a) the term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) the term "process waste water pollutants" shall mean pollutants contained in process waste waters.

(c) the term "impoundment," for the purposes of calculating excess water discharged, shall be the water surface area at maximum impoundment capacity.

(d) the following abbreviations shall have the following meanings: (1) "mg/l" shall mean milligrams per liter and (2) "TSS" shall mean total suspended nonfilterable solids.

§ 418.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraphs (b), (c), and (d) of this section, there shall be no discharge of process waste water pollutants into navigable waters.

(b) A process waste water impoundment which is designed, constructed and operated so as to contain the precipitation from the 10 year, 24 hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process waste water which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10 year, 24 hour rainfall event, when such event occurs.

(c) During any calendar month there may be discharged from a process waste water impoundment either a volume of process waste water equal to the difference between the precipitation for that month that falls within the impoundment and the evaporation for that month, or, if greater, a volume of process waste water equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation for that month as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the National Climatic Center).

(d) Any process waste water discharged pursuant to paragraph (c) of this section shall comply with each of the following requirements:

Effluent characteristic	*Effluent limitations*
Total phosphorus.	Maximum for any one day 20 mg/1.
	Maximum average of daily values for periods of discharge covering 10 or more consecutive days 10 mg/1.
Fluoride	Maximum for any one day 30 mg/1.
	Maximum average of daily values for periods of discharge covering 10 or more consecutive days 15 mg/1.
Ammonia nitrogen.	Maximum for any one day 10 mg/1.
	Maximum average of daily values for periods of discharge covering 10 or more consecutive days 5 mg/1.
TSS	Maximum for any one day 30 mg/1.
	Maximum average of daily values for periods of discharge covering 10 or more consecutive days 10 mg/1.
pH	Within the range of 6.0 to 9.0.

§ 418.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after the application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section, there shall be no discharge of process waste water pollutants into navigable waters.

(b) A process waste water impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25 year, 24 hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process waste water which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 25 year, 24 hour rainfall event, when such event occurs.

§ 418.14 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after the application of standards of performance for new sources by a point source subject to the provisions of this subpart:

(a) Subject to the provisions of paragraph (b) of this section, there shall be no discharge of process waste water pollutants into navigable waters.

(b) A process waste water impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25 year, 24 hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process waste water which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 25 year, 24 hour rainfall event, when such event occurs.

§ 418.15 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the phosphate subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 418.14: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart B—Ammonia Subcategory

§ 418.20 Applicability; description of ammonia subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of ammonia.

§ 418.21 Specialized definitions.

For the purposes of this subpart:

(a) the term "oil and grease" shall mean those components of waste water

amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes", 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, Cincinnati, Ohio.

(b) the term "product" shall mean the anhydrous ammonia content of the compound manufactured.

(c) the following abbreviations shall have the following meanings: (1) "kg" shall mean kilograms, (2) "kkg" shall mean 1000 kilograms, and (3) "lb" shall mean pounds.

§ 418.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
Ammonia Nitrogen.	Maximum for any one day 0.125 kg/kkg of product (0.125 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0625 kg/kkg of product (0.0625 lb/1000 lb).
Oil and grease.	Maximum for any one day 0.025 kg/kkg of product (0.025 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0125 kg/kkg of product (0.0125 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
Ammonia Nitrogen.	Maximum for any one day 0.025 kg/kkg of product (0.05 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1000 lb).
Oil and grease.	Maximum for any one day 0.05 kg/kkg of product (0.025 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0125 kg/kkg of product (0.0125 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.24 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of standards of performance for new sources by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
Ammonia Nitrogen	Maximum for any one day (0.11 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.055 kg/kkg of product (0.055 lb/1000 lb).
Oil and grease	Maximum for any one day 0.025 kg/kkg of product (0.025 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0125 kg/kkg of product (0.0125 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.25 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the ammonia subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 418.24; *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart C—Urea Subcategory

§ 418.30 Applicability; description of urea subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of urea.

§ 418.31 Specialized definitions.

For the purpose of this subpart:

(a) The term "organic nitrogen" shall mean those components of waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th edition, 1971, page 429, method 215.

(b) The term "product" shall mean the urea content of the compound manufactured.

(c) The following abbreviations shall have the following meanings: (1) "kg" shall mean kilograms, (2) "kkg" shall mean 1000 kilograms, and (3) "lb" shall mean pounds.

§ 418.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

(a) The following limitations constitute the maximum permissible discharge on the basis of production for urea manufacturing operations in which urea is not prilled:

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.075 kg/kkg of product (0.075 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0375 kg/kkg of product (0.0375 lb/1000 lb).
Organic nitrogen.	Maximum for any one day 0.125 kg/kkg of product (0.125 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0625 kg/kkg of product (0.0625 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

(b) The following limitations constitute the maximum permissible discharge on the basis of production for urea manufacturing operations in which urea is prilled.

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.1 kg/kkg of product (0.1 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg of product (0.05 lb/1000 lb).
Organic nitrogen.	Maximum for any one day 0.25 kg/kkg of product (0.25 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.125 kg/kkg of product (0.125 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

(a) The following limitations constitute the maximum permissible discharge on the basis of production for urea manufacturing operations in which urea is not prilled:

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.03 kg/kkg of product (0.03 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.015 kg/kkg of product (0.015 lb/1000 lb).
Organic nitrogen.	Maximum for any one day 0.05 kg/kkg of product (0.05 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

(b) The following limitations constitute the maximum permissible discharge on the basis of production for urea manufacturing operations in which urea is prilled:

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.03 kg/kkg of product (0.03 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.015 kg/kkg of product (0.015 lb/1000 lb).
Organic nitrogen.	Maximum for any one day 0.075 kg/kkg of product (0.075 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0375 kg/kkg of product (0.0375 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.34 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of standards of performance for new sources by a point source subject to the provisions of this subpart:

(a) The following limitations constitute the maximum permissible discharge on the basis of production for urea manufacturing operations in which urea is not prilled.

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.065 kg/kkg of product (0.065 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0325 kg/kkg of product (0.0325 lb/1000 lb).
Organic nitrogen.	Maximum for any one day 0.075 kg/kkg of product (0.075 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0375 kg/kkg of product (0.0375 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

(b) The following limitations constitute the maximum permissible discharge on the basis of production for urea manufacturing operations in which urea is prilled.

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.065 kg/kkg of product (0.065 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0325 kg/kkg of product (0.0325 lb/1000 lb).
Organic nitrogen.	Maximum for any one day 0.125 kg/kkg of product (0.125 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0625 kg/kkg of product (0.0625 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.35 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the urea subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 418.34: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart D—Ammonium Nitrate Subcategory

§ 418.40 Applicability; description of ammonium nitrate subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of ammonium nitrate.

§ 418.41 Specialized definitions.

For the purposes of this subpart:

(a) The term "product" shall mean the anhydrous ammonium nitrate content of the compound(s) manufactured.

(b) The following abbreviations shall have the following meanings: (1) "Kg" shall mean kilograms (2) "kkg" shall mean 1000 kilograms and (3) "lb" shall mean pounds.

§ 418.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.1 kg/kkg of product (0.1 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg of product (0.05 lb/1000 lb).
Nitrate nitrogen.	Maximum for any one day 0.125 kg/kkg of product 0.125 kg/kkg of product Maximum average of daily values for any period of thirty consecutive days 0.0625 kg/kkg of product (0.0625 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.015 kg/kkg of product (0.015 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.0075 kg/kkg of product (0.0075 lb/1000 lb).
Nitrate nitrogen.	Maximum for any one day 0.025 kg/kkg of product (0.025 lb/1000 lb). Maximum average of daily values for any period of thirty consecutive days 0.125 kg/kkg of product (0.0125 lb/1000 lb).
pH	Within the range of 6.0 to 9.0.

§ 418.44 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of standards of performance for new sources by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
Ammonia nitrogen.	Maximum for any one day 0.1 kg/kkg of product (0.1 lb/1000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg of product (0.05 lb/1000 lb).
Nitrate nitrogen.	Maximum for any one day 0.05 kg/kkg of product (0.05 lb/1000 lb).
	Maximum average of daily values for any period of thirty consecutive days 0.025 kg/kkg of product (0.025 lb/1000 lb).
pH ----------	Within the range of 6.0 to 9.0.

§ 418.45 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the ammonium nitrate subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 418.44: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart E—Nitric Acid Subcategory

§ 418.50 Applicability; description of nitric acid subcategory.

The provisions of this subpart are applicable to discharges resulting from the manufacture of nitric acid used as an intermediate product for the manufacture of fertilizer products or other intermediate products.

§ 418.51 Specialized definitions.

For the purposes of this subpart:

(a) The term "process waste water" shall mean any water which during the manufacturing process comes into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

(b) The term "process waste water pollutants" shall mean pollutants contained in process waste waters.

§ 418.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants into navigable waters.

§ 418.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants into navigable waters.

§ 418.54 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of standards of performance for new sources by a point source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants into navigable waters.

§ 418.55 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the nitric acid subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purpose of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 418.54: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

[FR Doc.73-25338 Filed 12-6-73;8:45 am]

[40 CFR Part 425]

LEATHER TANNING AND FINISHING INDUSTRY POINT SOURCE CATEGORY

Proposed Effluent Limitations Guidelines

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the leather tanning and finishing category of point sources pursuant to sections 301, 304 (b) and (c), 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92-500) (the Act).

(a) *Legal authority*—(1) *Existing point sources.* Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) to the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives. The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304(b) of the Act, for the leather tanning and finishing category.

(2) *New sources.* Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973 (38 FR 1624), a list of 27 source categories, including the leather tanning and finishing category. The regulations proposed herein set forth the standards of performance applicable to new sources for the leather tanning and finishing category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. §§ 425.05, 425.15, 425.25, 425.35, 425.45, and 425.55, proposed below provide pretreatment standards for new sources within the leather tanning and finishing industry category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The Development Document referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(b) Summary and Basis of Proposed Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources.

(1) *General methodology.* The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of (1) the source, flow and volume of water used in the process employed and the sources of waste and waste waters in the operation and (2) the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations guidelines and standards of performance were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the non-water quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technolog, constitute the "best practicable control technology currently available," the "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under 40 CFR Part 128. The basis for such standards are set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for § 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§ 425.05, 425.15, 425.25, 425.35, 425.45, and 425.55 below amend § 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standards applicable to existing sources under sections 301 and 304 (b) of the Act.

(2) Summary of conclusions with respect to the leather tanning and finishing industry category of point sources.

(1) *Categorization.* For the purpose of studying waste treatment and effluent limitations, the leather tanning and finishing category was divided into discrete subcategories which coincide with a breakdown of the category according to processes and waste characteristics as outlined in the Development Document for the leather tanning and finishing category.

The leather tanning and finishing industry has been divided into six subcategories for the purpose of establishing effluent limitations guidelines and standards of performance. Generic names or descriptions for several of the subcategories are not commonly employed in the industry. Simple descriptive labels have been developed which generally describe the most common processes found in each subcategory. The labels are not a rigorous definition of the subcategory since some tannery types will not strictly conform to the label. Variations in waste water characteristics are influenced by several variables such as the types of hides or skins tanned and unit processes employed in tanning. The three tannery operations, (1) hair removal (either hair pulp or hair save processes), (2) tanning (vegetable, alum, chrome), and (3) finishing are the principal sources of process waste variations. Each subcategory is comprised of tanneries which have been determined to have sufficiently similar plant processes and waste characteristics to justify their inclusion within a separate subcategory.

(1) *Subpart A.* Hair pulp unhairing with chrome tanning and finishing subcategory: This subcategory includes the following tannery types: (1) One which chrome tans and finishes cattle hides after removing the hair by the hair pulping technique; (2) one which chrome tans and finishes cattle hides after removing the hair by both the hair pulp and hair save techniques (the latter hair removal operations are independent processes within the same tannery), (3) one which both chrome tans and vegetable tans and finishes cattle hides after removing the hair by both the hair save and hair pulp technique; and (4) one which chrome tans sheep skins after removing the wool.

(2) *Subpart B.* Hair save unhairing with chrome tanning and finishing subcategory: This subcategory includes the following tannery types: (1) One which chrome tans and finishes cattle hides after removing the hair by the hair save technique; and, (2) one which chrome tans deer skins after removing the hair.

(3) *Subpart C.* Unhairing with vegetable or alum tanning and finishing subcategory: This subcategory includes the following tannery types: (1) One which vegetable tans cattle hides after removing the hair by either the hair save or hair pulp technique; and, (2) one which alum tans cattle hides after removing the hair by either the hair save or hair pulp technique.

(4) *Subpart D.* Finishing of tanned hides subcategory: This subcategory includes the following tannery types: (1) One which finishes previously tanned cattle hides; (2) one which finishes previously tanned sheep skins; (3) one which finishes previously tanned deer skins; and, (4) one which finishes previously tanned cattle splits.

(5) *Subpart E.* Vegetable or chrome tanning of unhaired hides subcategory: This subcategory includes the following tannery types: (1) One which chrome tans and finishes cattle splits; (2) one which chrome tans and finishes cattle hides which have had hair previously removed; (3) one which vegetable tans and finishes cattle hides which have had hair previously removed; (4) one which

vegetable tans and finishes cattle splits; (5) one which chrome tans and finishes pig skins; (6) one which chrome tans and finishes sheep skins which have had wool previously removed; (7) one which vegetable tans and finishes sheep skins which have had wool previously removed; (8) one which both chrome tans and vegetable tans sheep skins which have had wool previously removed; (9) one which chrome tans and finishes sheep skin with the wool retained; and, (10) one which vegetable tans and finishes sheep skin with the wool retained.

(6) *Subpart F.* Unhairing with chrome tanning and no finishing subcategory: This subcategory includes the following tannery types: (1) One which chrome tans but does not finish cattle hides after removing the hair by the hair pulp technique; (2) one which chrome tans but does not finish cattle hides after removing the hair by the hair save technique; (3) one which removes hair from cattle hides by the hair pulp technique; and, (4) one which removes the hair from cattle hides by the hair save technique.

(ii) *Waste characteristics.* The known significant pollutants or pollutant characteristics of waste waters resulting from the leather tanning and finishing industry include: Biochemical oxygen demand, total nonfilterable suspended solids, total chromium, sulfide, oil and grease, total kjeldahl nitrogen, fecal coliforms and pH.

Effluent limitation guidelines and standards of performance are established below to control each of the above pollutants or pollutant characteristics. No limitations have been established for chemical oxygen demand, total dissolved solids, ammonia nitrogen, or color because available data has indicated these pollutants are normally removed when significant pollutants are removed or they occur in insignificant quantities.

(iii) *Treatment and control technology.* The best practicable control technology currently available for the six subcategories will reduce biochemical oxygen demand, total nonfilterable suspended solids, total chromium, and oil and grease by about 95 percent.

Historically, the leather tanning and finishing industry has not applied the best practicable control technology for waste treatment. In fact, the waste treatment currently used by the industry was found to be uniformly inadequate.

The most commonly employed biological treatment presently used by the tanning industry is lagoons. The current practice has not resulted in consistently good effluent quality for a variety of reasons: Poor design, poor operation, and poor control capabilities. Although currently not attaining effluent levels consistent with the best practicable control technology, with some improvements in design, operation and control, lagoons may prove to be a viable waste treatment alternative for attaining this level. Biological systems employing various combinations of anaerobic lagoons, aerobic lagoons, aerated lagoons, anaerobic-aerobic lagoons, and polishing lagoons have attained 99 percent reduction in major pollutants for the meat packing and food processing industries.

The use of activated sludge permits control of the biological system and provides a high degree of confidence in maintaining required effluent quality.

The best available technology economically achievable will further reduce biochemical oxygen demand, and total suspended solids as well as reduce sulfides and total kjeldahl nitrogen. A treatment model for achieving this reduction includes the use of biological systems which are adaptable to the treatment model for best practicable control technology.

The New Source Performance Standards are the same as the effluent guidelines for best practicable technology and the same model treatment scheme applies.

(iv) *Cost and energy requirements.* The lack of adequate waste treatment in the leather tanning and finishing industry required the design of a model treatment system to determine the cost and energy requirements. The model treatment scheme is a conservative design; therefore, the cost and energy estimates are conservative—i.e., higher than may occurs in practice for much of the industry.

The estimated total capital cost for tanneries discharging to receiving waters in order to achieve the best practicable control technology currently available is $28 million (August, 1971, price levels). This cost figure is based on the assumption that tanners have no treatment at present and would require treatment construction. The treatment scheme determined to be best practicable control technology currently available includes screening, equalization, primary clarification, activated sludge and final clarification. The total cost for water pollution control (including capital and operating costs) will increase the finished product costs between 1.1 and 3.5 percent.

Additional capital investment for tanneries discharging to receiving waters to achieve the best available technology level is estimated at $14.5 million. This cost figure is based on the addition of biological nitrification and denitrification facilities, sulfide oxidation facilities and multimedia filtration units to the best practicable control technology. Total annual costs of achieving this level are estimated to increase the present finished product prices between 0.5 and 2.6 percent over the cost of achieving the best practicable control technology limitations, i.e. a total increase of between 1.6 and 6.1 percent.

The estimated increase in energy consumption by the tanning industry for water pollution control is 3.6 percent for the 1977 level and 7.2 percent for the 1983 level and new source performance standards.

(v) *Non-water quality environmental impact.* The non-water quality environmental impact was considered. No air pollution will result from the implementation of best practicable control technology. However, the solid wastes generated in the treatment of tannery waste, generally in the form of a sludge, will contain chromium.

Chromium may be hazardous and may require special consideration. In order to ensure long term protection of the environment from this hazardous or harmful constituent, special consideration of disposal sites must be made. All landfill sites where such hazardous waste are disposed should be selected so as to prevent horizontal and vertical migration of contaminants to ground or surface waters. In cases where geological conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g. impervious liners) should be taken to ensure long term protection to the environment from hazardous materials. Where appropriate the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

In some localities there is concern that chromium-containing sludges will not be permitted in land fills. However, a properly designed and operated sanitary land fill should adequately handle the sludge. The removal and reuse of chromium from the waste stream is highly recommended and will either eliminate or minimize its content in the sludge.

(vi) *Economic impact.* The economic impact analysis revealed that less than ten percent of all plants would be impacted by the proposed regulations. These plants are generally small, however, and would be exempt from meeting the pretreatment requirements. A very few additional plants may be impacted. The total of all those tanneries impacted represents less than 5 percent of the total leather production.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the LEATHER TANNING AND FINISHING Industry Point Source Category" details the analysis undertaken in support of the regulations being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the proposed regulations is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulations, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) *Summary of public participation.* Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate

in the development of effluent limitations guidelines and standards proposed for the leather tanning and finishing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) Tanners' Council of America; (3) The American Society of Mechanical Engineers; (4) The American Society of Civil Engineers; (5) Hudson River Sloop Restoration, Inc.; (6) The Conservation Foundation; (7) Environmental Defense Fund, Inc.; (8) Natural Resources Defense Council; (9) Water Pollution Control Federation; (10) National Wildlife Federation; (11) Department of the Interior; (12) Department of Commerce; (13) Water Resources Council; (14) Department of the Treasury; (15) Department of Agriculture; (16) New England Interstate Water Pollution Control Commission; (17) Ohio River Valley Sanitation Commission; (18) Delaware River Basin Commission; (19) Government of Guam; (20) Trust Territory of the Pacific Island; (21) Puerto Rico; the State pollution control agencies of the following States: (22) Arizona; (23) Arkansas; (24) California; (25) Connecticut; (26) Delaware; (27) Florida; (28) Georgia; (29) Illinois; (30) Kentucky; (31) Louisiana; (32) Maine; (33) Maryland; (34) Massachusetts; (35) Michigan; (36) Minnesota; (37) Mississippi; (38) Montana; (39) Nebraska; (40) New Hampshire; (41) New Jersey; (42) New Mexico; (43) New York; (44) Ohio; (45) Oklahoma; (46) Oregon; (47) Pennsylvania; (48) Rhode Island; (49) Tennessee; (50) Texas; (51) Vermont; (52) Virginia; (53) West Virginia; (54) Wisconsin; and (55) Wyoming.

The following organizations responded: Department of Commerce, Department of the Interior, Department of Agriculture, Department of the Treasury; Water Resources Council; also the States of Illinois, Michigan, Colorado, California, Maine, Hawaii, Nebraska, Arizona, Florida, Texas, Kentucky, Georgia, Delaware, Connecticut, and Massachusetts; Natural Resources Defense Council, National Hide Association, Tanners' Council of America, Water Pollution Control Federation, Effluent Standards and Water Quality Information Advisory Committee, A. C. Lawrence Leather Co., Armour Leather Co., Fred Rueping Leather Co., Edward C. Jordan Co. Inc. and Kleinschmidt and Dutting.

The primary issues raised during the development of these proposed effluent limitations guidelines and standards of performance and the treatment of these issues are as follows:

(1) Several commentors considered the cost of achieving the effluent limitations and standards of performance to be excessive.

The cost figures presented are based on a conservative design of a waste water treatment facility which will attain the pollutant removal levels required in the effluent guidelines and standards. The actual cost to many individual tanners may be somewhat less when particular treatment needs have been determined. However, based on the lack of exemplary waste treatment plants and related costs, the conservative treatment design was employed to generate costs.

Many have misunderstood the range of finished product cost increases. For the best practicable control technology estimated increase of final product cost ranges from 1.1 to 3.5 percent for various subcategories. For only one subcategory is the increase in excess of 2.6 percent.

For the best available control technology economically achievable, the estimated increase of final product cost ranges from 0.5 to 2.6 percent for various subcategories and only one subcategory is in excess of 1.3 percent. The overall cost of both best practicable and best available control technology is estimated to increase final product costs from 1.6 to 6.1 percent for various subcategories and only one subcategory is in excess of 3.8 percent.

(2) Some commentors considered the effluent limitations for many of the pollutants too stringent, and others questioned whether the technology is "currently available." These comments are based on the fact that no tanners are currently attaining the effluent guideline levels.

That the tanning industry has not previously been required to employ good water pollution control practices does not form an adequate basis for permitting the industry to continue the discharge of inadequately treated wastes. Other comparable industries, that have recognized their responsibilities through employment of currently available technology, are obtaining reductions equal to or greater than those recommended for the tanning industry.

(3) The opinion was expressed that the possibility of "zero discharge" was not given sufficient consideration for best available technology economically achievable and new source performance standards.

No discharge of process waste water pollutants would require use of desalinization techniques which, at this point in time, are not deemed to be economically achievable for this industry category and also would require an energy consumption increase of approximately 100-percent.

(4) Comments have been received to the effect that the economic impact of the effluent guidelines for the leather tanning and finishing industry may be severe for small plants in the industry and for the communities in which they are located.

In light of this possibility, additional information is requested, especially in regard to small plants, concerning the following factors: (a) Plant size, (b) production characteristics, (c) financial characteristics, especially income and rate of return, (d) investment expenditures, and (e) operating costs. Information is also requested on internal production alternatives that may be required to reduce or change the composition of waste flows and the cost of such production alternatives.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which is available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data is essential to the development of the regulations. In the event comments address the approach taken by the agency in establishing an effluent limitation guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street SW., Washington, D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before January 7, 1974, will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated: November 23, 1973.

JOHN QUARLES,
Acting Administrator.

PART 425—EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE LEATHER TANNING AND FINISHING INDUSTRY POINT SOURCE CATEGORY

Subpart A—Hair Pulp Unhairing With Chrome Tanning and Finishing Subcategory

Sec.

425.00 Applicability; description of hair pulp unhairing with chrome tanning and finishing subcategory.
425.01 Specialized definitions.
425.02 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
425.03 Effluent limitations guidelines representing the degree of effluent reduction attainable by application of the best available technology economically achievable.

Sec.

425.04 Standards of performance for new sources.
425.05 Pretreatment standards for new sources.

Subpart B—Hair Save Unhairing With Chrome Tanning and Finishing Subcategory

425.10 Applicability; description of hair save unhairing with chrome tanning and finishing subcategory.
425.11 Specialized definitions.
425.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
425.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
425.14 Standards of performance for new sources.
425.15 Pretreatment standards for new sources.

Subpart C—Unhairing With Vegetable or Alum Tanning and Finishing Subcategory

425.20 Applicability; description of unhairing with vegetable or alum tanning and finishing subcategory.
425.21 Specialized definitions.
425.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
425.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
425.24 Standards of performance for new sources.
425.25 Pretreatment standards for new sources.

Subpart D—Finishing of Tanned Hides Subcategory

425.30 Applicability; description of finishing of tanned hides subcategory.
425.31 Specialized definitions.
425.32 Effluent limtations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
425.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by application of the best available technology economically achievable.
425.34 Standards of performance for new sources.
425.35 Pretreatment standards for new sources.

Subpart E—Vegetable or Chrome Tanning of Unhaired Hides Subcategory

425.40 Applicability; description of vegetable or chrome tanning of unhaired hides subcategory.
425.41 Specialized definitions.
425.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
425.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
425.44 Standards of performance for new sources.
425.54 Pretreatment standards for new sources.

Subpart F—Unhairing With Chrome Tanning and No Finishing Subcategory

425.50 Applicability; description of unhairing with chrome tanning and no finishing subcategory.
425.51 Specialized definitions.
425.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
425.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
425.54 Standards of performance from new sources.
425.54 Standards of performance for new sources.

Subpart A—Hair Pulp Unhairing With Chrome Tanning and Finishing Subcategory

§ 425.00 Applicability; description of hair pulp unhairing with chrome tanning and finishing subcategory.

The provisions of this subpart are applicable to discharges resulting from tanneries which either exclusively or in addition to other unhairing and tanning operations, chrome tan and finish cattle hide after hair pulp unhairing. This subcategory includes the following tannery types: (a) one which chrome tans and finishes cattle hides after removing the hair by the hair pulp technique, (b) one which chrome tans and finishes cattle hides after removing the hair by both the hair pulp and hair save techniques (the latter hair removal operations are independent processes within the same tannery), (c) one which both chrome tans and vegetable tans and finishes cattle hides after removing the hair by both the hair save and hair pulp technique, and (d) one which chrome tans sheep skins after removing the wool.

§ 425.01 Specialized definitions.

AUTHORITY: Secs. 301, 304 (b) and (c), 306(b), and 307(c), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b), and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92-500) (the Act).

For the purposes of this subpart:

(a) The term "hide" shall mean any animal pelt or skin as received by a tannery as raw material to be processed.

(b) The term "skin" shall mean hide.

(c) The term "finish" shall mean the final processing steps performed on a tanned hide including but not limited to the following wet processes: Retan, bleach, color, and fatliquor.

(d) The term "hair pulp" shall mean the removal of hair by means of chemical dissolution.

(e) The term "hair save" shall mean the physical or mechanical removal of hair which has not been chemically dissolved.

(f) The term "chrome tan" shall mean the process of converting hide into leather using a form of chromium.

(g) The term "vegetable tan" shall mean the process of converting hide into leather using chemicals either derived from vegetable matter or synthesized to produce effects similar to those of chemicals so derived.

(h) The term "process waste water" shall mean any water which during the leather tanning and finishing processes comes into direct contact with any raw material, intermediate material, by-product or final product used in or resulting from tanning and finishing of hides.

(i) The term "process waste water pollutants" shall mean pollutants found in process waste water.

(j) The term "sulfide" shall be measured by the procedure presented in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971.

(k) The term "oil and grease" shall mean those components of waste water amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes," 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(l) The term "fecal coliform" shall mean those components of waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971, page 669.

(m) The following abbreviations shall have the following meanings: (1) "Kg" shall mean kilograms; (2) "kkg" shall mean 1,000 kilograms; (3) "lb" shall mean pounds; (4) "ml" shall mean milliliter; (5) "TSS" shall mean total suspended nonfilterable solids; and (6) "BOD5" shall mean the five day biochemical oxygen demand.

§ 425.02 Effluent limitations guidelines representing the degree of effluent reduction obtainable by the application of the best practicable control technology currently available.

(a) The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 5.4 kg/kkg hide (5.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 2.7 kg/kkg hide (2.7 lb/1000 lb hide).
Chromium	Maximum for any one day 0.10 kg/kkg hide (0.10 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg hide (0.05 lb/1000 lb hide).

Effluent characteristic	*Effluent limitations*
Oil and grease.	Maximum for any one day 1.06 kg/kkg hide (1.06 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.53 kg/kkg hide (0.53 lb/1000 lb hide).
TSS	Maximum for any one day 6.0 kg/kkg hide (6.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.0 kg/kkg hide (3.0 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.03 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 2.7 kg/kkg hide (2.7 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.35 kg/kkg hide (1.35 lb/1000 lb hide).
Chromium	Maximum for any one day 0.10 kg/kkg hide (0.10 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg hide (0.05 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.06 kg/kkg hide (1.06 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.53 kg/kkg hide (0.53 lb/1000 lb hide).
Sulfide	Maximum for any one day 0.01 kg/kkg hide (0.01 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.005 kg/kkg hide (0.005 lb/1000 lb hide).
TSS	Maximum for any one day 3.0 kg/kkg hide (3.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.5 kg/kkg hide (1.5 lb/1000 lb hide).
Total Kjeldahl nitrogen.	Maximum for any one day 0.54 kg/kkg hide (0.54 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.27 kg/kkg hide (0.27 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.04 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 5.4 kg/kkg hide (5.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 2.7 kg/kkg hide (2.7 lb/1000 lb hide).
Chromium	Maximum for any one day 0.10 kg/kkg hide (0.10 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg hide (0.05 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.06 kg/kkg hide (1.06 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.53 kg/kkg hide (0.53 lb/1000 lb hide).
TSS	Maximum for any one day 6.0 kg/kkg hide (6.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.0 kg/kkg hide (3.0 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.05 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the hair pulp unhairing with chrome tanning and finishing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 425.04: *Provided*, That if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart B—Hair Save Unhairing With Chrome Tanning and Finishing Subcategory

§ 425.10 Applicability; description of hair save unhairing with chrome tanning and finishing subcategory.

The provisions of this subpart are applicable to discharges resulting from tanneries which chrome tan and finish cattle hides or deer skin after hair save unhairing. This subcategory includes the following tannery types: (a) one which chrome tans and finishes cattle hides after removing the hair by the hair save technique, and (b) one which chrome tans deer skins after removing the hair.

§ 425.11 Specialized definitions.

For the purpose of this subpart:

(a) The term "hide" shall mean any animal pelt or skin as received by a tannery as raw material to be processed.

(b) The term "skin" shall mean hide.

(c) The term "finish" shall mean the final processing steps performed on a tanned hide including but not limited to the following wet processes: retan, bleach, color and fatliquor.

(d) The term "hair save" shall mean the physical or mechanical removal of hair which has not been chemically dissolved.

(e) The term "chrome tan" shall mean the process of converting hide into leather using a form of chromium.

(f) The term "process waste water" shall mean any water which during the leather tanning and finishing processes comes into direct contact with any raw material, intermediate material, by-product or final product used in or resulting from tanning and finishing of hides.

(g) The term "process waste water pollutants" shall mean pollutants found in process waste water.

(h) the term "sulfide" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971, page 551.

(i) The term "oil and grease" shall mean those components of a waste water amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes," 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(j) The term "fecal coliform" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971, page 669.

(k) The following abbreviations shall have the following meanings: (1) "kg"

shall mean kilogram; (2) "kkg" shall mean 1000 kilograms; (3) "lb" shall mean pounds; (4) "ml" shall mean milliliter; (5) "TSS" shall mean total suspended nonfilterable solids; and (6) "BOD5" shall mean the five day biochemical oxygen demand.

§ 425.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 6.4 kg/kkg hide (6.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.2 kg/kkg hide (3.2 lb/1000 lb hide).
Chromium	Maximum for any one day 0.12 kg/kkg hide (0.12 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.06 kg/kkg hide (0.06 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.26 kg/kkg hide (1.26 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg hide (0.63 lb/1000 lb hide).
TSS	Maximum for any one day 7.0 kg/kkg hide (7.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.5 kg/kkg hide (3.5 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 3.2 kg/kkg hide (3.2 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.6 kg/kkg hide (1.6 lb/1000 lb hide).
Chromium	Maximum for any one day 0.12 kg/kkg hide (0.12 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.06 kg/kkg hide (0.06 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.26 kg/kkg hide (1.26 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg hide (0.63 lb/1000 lb hide).
Sulfide	Maximum for any one day 0.012 kg/kkg hide (0.012 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.006 kg/kkg hide (0.006 lb/1000 lb hide).
TSS	Maximum for any one day 3.6 kg/kkg hide (3.6 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg hide (1.8 lb/1000 lb hide).
Total Kjeldahl nitrogen.	Maximum for any one day 0.64 kg/kkg hide (0.64 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.32 kg/kkg hide (0.32 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.14 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permittting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 6.4 kg/kkg hide (6.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.2 kg/kkg hide (3.2 lb/1000 lb hide).
Chromium	Maximum for any one day 0.12 kg/kkg hide (0.12 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.06 kg/kkg hide (0.06 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.26 kg/kkg hide (1.26 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg hide (0.63 lb/1000 lb hide).
TSS	Maximum for any one day 7.0 kg/kkg hide (7.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.5 kg/kkg hide (3.5 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.15 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the hair save unhairing with chrome tanning and finishing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 425.14: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart C—Unhairing With Vegetable or Alum Tanning and Finishing Subcategory

§ 425.20 Applicability; description of unhairing with vegetable or alum tanning and finishing subcategory.

The provisions of this subpart are applicable to discharges resulting from tanneries which vegetable or alum tan and finish cattle hides after hair pulp or hair save unhairing. This subcategory includes the following tannery types; (a) one which vegetable tans cattle hides after removing the hair by either the hair save or hair pulp technique, and (b) one which alum tans cattle hides after removing the hair by either the hair save or hair pulp technique.

§ 425.21 Specialized definitions.

For the purpose of this subpart:

(a) The term "finish" shall mean the final processing steps performed on a tanned hide including but not limited to

the following wet processes: retan, bleach, color and fatliquor.

(b) The term "hair pulp" shall mean the removal of hair by means of chemical dissolution.

(c) The term "hair save" shall mean the physical or mechanical removal of hair which has not been chemically dissolved.

(d) The term "vegetable tan" shall mean the process of converting hide into leather using chemicals either derived from vegetable matter or synthesized to produce effects similar to those of chemicals so derived.

(e) The term "alum tan" shall mean the process of converting animal skin into leather using a form of aluminum.

(f) The term "hide" shall mean any animal pelt or skin as received by a tannery as raw material to be processed.

(g) The term "sulfide" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater", 13th Edition, 1971, page 551.

(h) The term "oil and grease" shall mean those components of a waste water amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes", 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(i) The term "fecal coliform" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater", 13th Edition, 1971, page 669.

(j) The following abbreviations shall have the following meanings: (1) "kg" shall mean kilograms; (2) "kkg" shall mean 1,000 kilograms; (3) "lb" shall mean pounds; (4) "ml" shall mean milliliter; (5) "TSS" shall mean total suspended nonfilterable solids; and (6) "BOD5" shall mean the five day biochemical oxygen demand.

§ 425.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 5.0 kg/kkg hide (5.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 2.5 kg/kkg hide (2.5 lb/1000 lb hide).
Chromium	Maximum for any one day 0.10 kg/kkg hide (0.10 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg hide (0.05 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.0 kg/kkg hide (1.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.5 kg/kkg hide (0.5 lb/1000 lb hide).
TSS	Maximum for any one day 5.6 kg/kkg hide (5.6 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 2.8 kg/kkg hide (2.8 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 2.5 kg/kkg hide (2.5 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.25 kg/kkg hide (1.25 lb/1000 lb hide).
Chromium	Maximum for any one day 0.1 kg/kkg hide (0.1 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg hide (0.05 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.0 kg/kkg hide (1.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.5 kg/kkg hide (0.5 lb/1000 lb hide).
Sulfide	Maximum for any one day 0.01 kg/kkg hide (0.01 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.005 kg/kkg hide (0.005 lb/1000 lb hide).
TSS	Maximum for any one day 2.8 kg/kkg hide (2.8 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.4 kg/kkg hide (1.4 lb/1000 lb hide).
Total Kjeldahl nitrogen.	Maximum for any one day 0.5 kg/kkg hide (0.5 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.25 kg/kkg hide (0.25 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.24 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 5.0 kg/kkg hide (5.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 2.5 kg/kkg hide (2.5 lb/1000 lb hide).
Chromium	Maximum for any one day 0.10 kg/kkg hide (0.10 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.05 kg/kkg hide (0.05 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.0 kg/kkg hide (1.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.5 kg/kkg hide (0.5 lb/1000 lb hide).
TSS	Maximum for any one day 5.6 kg/kkg hide (5.6 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 2.8 kg/kkg hide (2.8 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.25 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the unhairing with vegetable or alum tanning and finishing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 425.24: *Provided*, That, if the publicly owned treat-

ment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart D—Finishing of Tanned Hides Subcategory

§ 425.30 Applicability; description of finishing of tanned hides subcategory.

The provisions of this subpart are applicable to discharges resulting from tanneries which finish cattle hide, sheep skin or deer skin that have had the hair removed or wool removed and tanned prior to arrival at the tannery. The most common tanneries which fall into this category are described as follows: (a) one which finishes previously tanned cattle hides, (b) one which finishes previously tanned sheep skins, (c) one which finishes previously tanned deer skins, and (d) one which finishes previously tanned cattle splits.

§ 425.31 Specialized definitions.

For the purpose of this subpart:

(a) The term "finish" shall mean the final processing steps performed on a tanned hide including but not limited to the following wet processes: retan, bleach, color and fatliquor.

(b) The term "hide" shall mean any animal pelt or skin as received by a tannery as raw material to be processed.

(c) The term "skin" shall mean hide.

(d) The term "split" shall mean the nongrain part of a hide which results from a cut parallel to its surface.

(e) The term "sulfide" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971, page 551.

(f) The term "oil and grease" shall mean those components of a waste water amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes," 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(g) The term "fecal coliform" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971, page 669.

(h) The following abbreviations shall have the following meanings: (1) "Kg" shall mean kilograms; (2) "kkg" shall mean 1000 kilograms; (3) "lb" shall mean pounds; (4) "ml" shall mean milliliter; (5) "TSS" shall mean total suspended nonfilterable solids; and (6) "BOD5" shall mean the five day biochemical oxygen demand.

§ 425.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 2.0 kg/kkg hide (2.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg hide (1.0 lb/1000 lb hide).
Chromium	Maximum for any one day 0.04 kg/kkg hide (0.04 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.02 kg/kkg hide (0.02 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 0.48 kg/kkg hide (0.48 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.24 kg/kkg hide (0.24 lb/1000 lb hide).
TSS	Maximum for any one day 2.2 kg/kkg hide (2.2 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.1 kg/kkg hide (1.1 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 1.0 kg/kkg hide (1.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.5 kg/kkg hide (0.5 lb/1000 lb hide).
Chromium	Maximum for any one day 0.04 kg/kkg hide (0.04 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.02 kg/kkg hide (0.02 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 0.48 kg/kkg hide (0.48 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.24 kg/kkg hide (0.24 lb/1000 lb hide).
Sulfide	Maximum for any one day 0.004 kg/kkg hide (0.004 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.002 kg/kkg hide (0.002 lb/1000 lb hide).
TSS	Maximum for any one day 1.2 kg/kkg hide (1.2 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.6 kg/kkg hide (0.6 lb/1000 lb hide).
Total Kjeldahl nitrogen.	Maximum for any one day 0.2 kg/kkg hide (0.2 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.1 kg/kkg hide (0.1 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.34 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 2.0 kg/kkg hide (2.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg hide (1.0 lb/1000 lb hide).
Chromium	Maximum for any one day 0.04 kg/kkg hide (0.04 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.02 kg/kkg hide (0.02 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 0.48 kg/kkg hide (0.48 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.24 kg/kkg hide (0.24 lb/1000 lb hide).
TSS	Maximum for any one day 2.2 kg/kkg hide (2.2 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.1 kg/kkg hide (1.1 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.35 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within finishing of tanned hides subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in section § 425.34: *Provided*, That, if the publicly owned treatment work which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart E—Vegetable or Chrome Tanning of Unhaired Hides Subcategory

§ 425.40 Applicability; description of vegetable or chrome tanning of unhaired hides subcategory.

The provisions of this subpart are applicable to discharges resulting from tanneries which chrome or vegetable tan and finish cattle hide, sheep skin or pig skin that have the hair or wool retained, or hair or wool removed prior to arrival at the tannery. The most common tanneries which fall into this category are described as follows: (a) One which chrome tans and finished cattle splits; (b) one which chrome tans and finishes cattle hides which have had hair previously removed; (c) one which vegetable tans and finishes cattle hides which have had hair previously removed; (d) one which vegetable tans and finishes cattle splits; (e) one which chrome tans and finishes pig skins; (f) one which chrome tans and finishes sheep skins which have had wool previously removed; (g) one which vegetable tans and finishes sheep skins which have had wool previously removed; (h) one which both chrome tans and vegetable tans sheep skins which have had wool previously removed; (i) one which chrome tans and finishes sheep skins with the wool retained; and, (j) one which vegetable tans and finishes sheep skins with the wool retained.

§ 425.41 Specialized definitions.

For the purpose of this subpart:

(a) The term "hide" shall mean any animal pelt or skin as received by a tannery as raw material to be processed.

(b) The term "skin" shall mean hide.

(c) The term "split" shall mean the nongrain part of a hide which results from a cut parallel to its surface.

(d) The term "finish" shall mean the final processing steps performed on a tanned hide including but not limited to the following wet processes: retan, bleach, color and fatliquor.

(e) The term "chrome tan" shall mean the process of converting hide into leather using a form of chromium.

(f) The term "vegetable tan" shall mean the process of converting hide into leather.

(g) The term "sulfide" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater", 13th Edition, 1971, page 551.

(h) The term "oil and grease" shall mean those components of a waste water amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes", 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(i) The term "fecal coliform" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater", 13th Edition, 1971, page 669.

(j) The following abbreviations shall have the following meanings: (1) "Kg" shall mean kilograms; (2) "kkg" shall mean 1,000 kilograms; (3) "lb" shall mean pounds; (4) "ml" shall mean milliliter; (5) "TSS" shall mean total suspended nonfilterable solids; and (6) "BOD5" shall mean the five day biochemical oxygen demand.

§ 425.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 6.4 kg/kkg hide (6.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.2 kg/kkg hide (3.2 lb/1000 lb hide).
Chromium	Maximum for any one day 0.12 kg/kkg hide (0.12 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.06 kg/kkg hide (0.06 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.26 kg/kkg hide (1.26 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg hide (0.63 lb/1000 lb hide).
TSS	Maximum for any one day 7.0 kg/kkg hide (7.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.5 kg/kkg hide (3.5 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 3.2 kg/kkg hide (3.2 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.6 kg/kkg hide (1.6 lb/1000 lb hide).
Chromium	Maximum for any one day 0.12 kg/kkg hide (0.12 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.06 kg/kkg hide (0.06 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.26 kg/kkg hide (1.26 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg hide (0.63 lb/1000 lb hide).
Sulfide	Maximum for any one day 0.012 kg/kkg hide (0.012 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.006 kg/kkg hide (0.006 lb/1000 lb hide).
TSS	Maximum for any one day 3.6 kg/kkg hide (3.6 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.8 kg/kkg hide (1.8 lb/1000 lb hide).
Total Kjeldahl nitrogen.	Maximum for any one day 0.62 kg/kkg hide (0.62 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.31 kg/kkg hide (0.31 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.44 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or

pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 6.4 kg/kkg hide (6.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.2 kg/kkg hide (3.2 lb/1000 lb hide).
Chromium	Maximum for any one day 0.12 kg/kkg hide (0.12 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.06 kg/kkg hide (0.06 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 1.26 kg/kkg hide (1.26 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.63 kg/kkg hide (0.63 lb/1000 lb hide).
TSS	Maximum for any one day 7.0 kg/kkg hide (7.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 3.5 kg/kkg hide (3.5 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.45 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the vegetable or chrome tanning of unhaired hides subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 425.44: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

Subpart F—Unhairing With Chrome Tanning and No Finishing Subcategory

§ 425.50 Applicability; description of unhairing with chrome tanning and no finishing subcategory.

The provisions of this subpart are applicable to discharges resulting from tanneries which chrome tan after either hair pulp or hair save unhairing, but do not finish. The most common tanneries which fall into this category are described as follows: (a) One which chrome tans but does not finish cattle hides after removing the hair by the hair pulp technique: (b) one which chrome tans but does not finish cattle hides after removing the hair by the hair save technique; (c) one which removes hair from cattle hides by the hair pulp technique; and (d) one which removes hair from cattle hides by the hair save technique.

§ 425.51 Specialized definitions.

For the purpose of this subpart:

(a) The term "hide" shall mean any animal pelt or skin as received by a tannery as raw material to be processed.

(b) The term "finish" shall mean the final processing steps performed on a tanned hide including but not limited to the following wet processes: Retan, bleach, color and fatliquor.

(c) The term "hair pulp" shall mean the removal of hair by means of chemical dissolution.

(d) The term "hair save" shall mean the physical or mechanical removal of hair which has not been chemically dissolved.

(e) The term "chrome tan" shall mean the process of converting hide into leather using a form of chromium.

(f) The term "sulfide" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater", 13th Edition, 1971, page 551.

(g) The term "oil and grease" shall mean those components of a waste water amenable to measurement by the method described in "Methods for Chemical Analysis of Water and Wastes," 1971, Environmental Protection Agency, Analytical Quality Control Laboratory, page 217.

(h) The term "fecal coliform" shall mean those components of a waste water amenable to measurement by the method described in "Standard Methods for the Examination of Water and Wastewater," 13th Edition, 1971, page 669.

(i) The following abbreviations shall have the following meanings: (1) "Kg" shall mean kilograms; (2) "kkg" shall mean 1,000 kilograms; (3) "lb" shall mean pounds; (4) "ml" shall mean milliliter; (5) "TSS" shall mean total suspended nonfilterable solids; and (6) "BOD5" shall mean the five day biochemical oxygen demand.

§ 425.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 2.8 kg/kkg hide (2.8 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.4 kg/kkg hide (1.4 lb/1000 lb hide).
Chromium	Maximum for any one day 0.06 kg/kkg hide (0.06 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.03 kg/kkg hide (0.03 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 0.68 kg/kkg hide (0.68 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.34 kg/kkg hide (0.34 lb/1000 lb hide).
TSS	Maximum for any one day 3.0 kg/kkg hide (3.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.5 kg/kkg hide (1.5 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 1.4 kg/kkg hide (1.4 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.7 kg/kkg hide (0.7 lb/1000 lb hide).
Chromium	Maximum for any one day 0.06 kg/kkg hide (0.06 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.03 kg/kkg hide (0.03 lb/1000 lb hide).

Effluent characteristic	*Effluent limitations*
Oil and grease.	Maximum for any one day 0.68 kg/kkg hide (0.68 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.34 kg/kkg hide (0.34 lb/1000 lb hide).
Sulfide	Maximum for any one day 0.006 kg/kkg hide (0.006 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.003 kg/kkg hide (0.003 lb/1000 lb hide).
TSS	Maximum for any one day 1.6 kg/kkg hide (1.6 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.8 kg/kkg hide (0.8 lb/1000 lb hide).
Total Kjeldahl nitrogen.	Maximum for any one day 0.28 kg/kkg hide (0.28 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.14 kg/kkg hide (0.14 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.54 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitations*
BOD5	Maximum for any one day 2.8 kg/kkg hide (2.8 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.4 kg/kkg hide (1.4 lb/1000 lb hide).
Chromium	Maximum for any one day 0.06 kg/kkg hide (0.06 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.03 kg/kkg hide (0.03 lb/1000 lb hide).
Oil and grease.	Maximum for any one day 0.68 kg/kkg hide (0.68 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 0.34 kg/kkg hide (0.34 lb/1000 lb hide).
TSS	Maximum for any one day 3.0 kg/kkg hide (3.0 lb/1000 lb hide). Maximum average of daily values for any period of thirty consecutive days 1.5 kg/kkg hide (1.5 lb/1000 lb hide).
Fecal coliforms.	Most Probable Number (MPN) shall not exceed 400 counts per 100 ml.
pH	Within the range of 6.0 to 9.0.

§ 425.55 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the unhairing with chrome tanning and no finishing subcategory which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 425.54: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

[FR Doc.73-25337 Filed 12-6-73;8:45 am]